IN THE CLAIMS:

Please amend Claims 1, 5, 6, 12, 16, 17, 23 and 27 as shown below. The claims, as pending in the subject application, now read as follows:

1. (Currently amended) A method of transforming device-dependent color values in a device-dependent color space of a color input device to device-independent color values inside a human visual gamut in a device-independent color space, comprising the steps of:

providing a mathematical model ~~transformation~~ for converting device-dependent color values in a device-dependent color space of the color input device to device-independent color values in the device-independent color space;

converting an input device-dependent color value in the device-dependent color space generated by the color input device into a device-independent color value in the device-independent color space using the mathematical model;

determining whether or not the device-independent color value has a luminance component less than zero;

when it is determined that the luminance component is less than zero, performing the following steps:

clipping the luminance component to zero; and

setting chromaticity components of the device-independent color value to zero; and

when it is determined that the luminance component is not less than zero, [[then]] performing the following steps:

determining whether or not the device-independent color value is

outside the human visual gamut ~~a the spectral locus~~ in the device-independent color space; and

when it is determined that the device-independent color value is outside the human visual gamut ~~the spectral locus~~, clipping the device-independent color value to another device-independent color value in the device-independent color space on a boundary of the human visual gamut ~~the spectral locus~~.

2. and 3. (Canceled)

4. (Previously presented) The method according to claim 1, wherein the luminance component of the device-independent color value is not clipped at an upper bound in the clipping wherein the luminance component of the device-independent color value is allowed to take a value higher than a diffuse white point of the device-independent color space.

5. (Currently amended) The method of claim 1, wherein clipping the device-independent color value further comprises mapping the device-independent color value outside the human visual gamut ~~spectral locus~~ to an intersection between a line defined by the device-independent color value and a white point and a boundary of the human visual gamut ~~spectral locus~~.

6. (Currently amended) The method of claim 1, wherein the boundary of the human visual gamut ~~spectral locus~~ is the ISO standard CIE spectral locus on a chromaticity space.

7. (Original) The method of claim 6, wherein the chromaticity space is the CIE chromaticity xy plane.

8. (Original) The method of claim 6, wherein the chromaticity space is the CIE Uniform Chromaticity Scale (UCS) u'v' plane.

9. (Previously presented) The method of claim 1, wherein the device-independent color space is CIEXYZ.

10. (Previously presented) The method of claim 1, wherein the device-independent color space is CIELUV.

11. (Previously presented) The method of claim 1, wherein the device-independent color space is CIELAB.

12. (Previously presented) A data processing system for transforming device-dependent color values in a device-dependent color space of a color input device to device-independent color values <u>inside a human visual gamut</u> in a device-independent color space, comprising:

a processor;

a memory coupled to the processor, the memory having program instructions executable by the processor stored therein, the program instructions comprising:

providing a mathematical model ~~transformation~~ for converting device-dependent color values in a device-dependent color space of the color input device to device-independent color values in the device-independent color space;

converting an input device-dependent color value in the device-dependent color space generated by the color input device into a device-independent color value in the device-independent color space using the mathematical model;

determining whether or not the device-independent color value has a luminance component less than zero;

when it is determined that the luminance component is less than zero, performing the following steps:

clipping the luminance component to zero; and

setting chromaticity components of the device-independent color value to zero; and

when it is determined that the luminance component is not less than zero, [[then]] performing the following steps:

determining whether or not the device-independent color value is outside the human visual gamut ~~a spectral locus~~ in the device-independent color space; and

when it is determined that the device-independent color value is outside the human visual gamut ~~spectral locus~~, clipping the device-independent color value to another device-independent color value in the device-independent color space on a boundary of the human visual gamut ~~the spectral locus~~.

13. and 14. (Canceled)

15. (Previously presented) The data processing system of claim 12, wherein the luminance component of the device-independent color value is not clipped at an upper bound in the clipping wherein the luminance component of the device-independent color value is allowed to take a value higher than a diffuse white point of the device-independent color space.

16. (Currently amended) The data processing system of claim 12, wherein clipping the device-independent color value further comprises mapping the device-independent color value outside the human visual gamut ~~spectral locus~~ to an intersection between a line defined by the device-independent color value and a white point and a boundary of the human visual gamut ~~spectral locus~~.

17. (Currently amended) The data processing system of claim 12, wherein the boundary of the human visual gamut ~~spectral locus~~ is the ISO standard CIE spectral locus on a chromaticity space.

18. (Original) The data processing system of claim 17, wherein the chromaticity space is the CIE chromaticity xy plane.

19. (Original) The data processing system of claim 17, wherein the chromaticity space is the CIE Uniform Chromaticity Scale (DCS) u'v' plane.

20. (Previously presented) The data processing system of claim 12, wherein the device-independent color space is CIEXYZ.

21. (Previously presented) The data processing system of claim 12, wherein the device-independent the color space is CIELUV.

22. (Previously presented) The data processing system of claim 12, wherein the device-independent color space is CIELAB.

23. (Currently amended) A computer-readable medium having program instructions for transforming device-dependent color values in a device-dependent color space of a color input device to device-independent color values inside a human visual gamut in a device-independent color space , comprising the steps of:

providing a mathematical model ~~transformation~~ for converting device-dependent color values in a device-dependent color space of the color input device to device-independent color values in the device-independent color space;

converting an input device-dependent color value in the device-dependent color space generated by the color input device into a device-independent color value in the device-independent color space using the mathematical model;

determining whether or not the device-independent color value has a luminance component less than zero;

when it is determined that the luminance component is less than zero, performing the following steps:

clipping the luminance component to zero; and

setting chromaticity components of the device-independent color value to zero; and

when it is determined that the luminance component is not less than zero, [[then]] performing the following steps:

determining whether or not the device-independent color value is outside the human visual gamut ~~a spectral locus~~ in the device-independent color space; and

when it is determined that the device-independent color value is outside the human visual gamut ~~spectral locus~~, clipping the device-independent color value to another device-independent color value in the device-independent color space on a boundary of the human visual gamut ~~the spectral locus~~.

24. and 25. (Canceled)

26. (Previously presented) The computer-readable medium of claim 23, wherein the luminance component of the device-independent color value is not clipped at an upper bound in the clipping wherein the luminance component of the device-independent color value is allowed to take a value higher than a diffuse white point of the device-independent color space.

27. (Currently amended) The computer-readable medium of claim 26, wherein clipping the device- independent color value further comprises mapping the device-independent color value outside the human visual gamut ~~spectral locus~~ to an intersection between a line defined by the device-independent color value and a white point and a boundary of the human visual gamut ~~spectral locus~~.

28. (Currently amended) The computer-readable medium of claim 27, wherein the boundary of the human visual gamut ~~spectral locus~~ is the ISO standard CIE spectral locus on a chromaticity space.

29. (Previously presented) The computer-readable medium of claim 28, wherein the chromaticity space is the CIE chromaticity xy plane.

30. (Previously presented) The computer-readable medium of claim 28, wherein the chromaticity space is the CIE Uniform Chromaticity Scale (UCS) u'v' plane.

31. (Previously presented) The computer-readable medium of claim 23, wherein the device-independent color space is CIEXYZ.

32. (Previously presented) The computer-readable medium of claim 23, wherein the device-independent color space is CIELUV.

33. (Previously presented) The computer-readable medium of claim 23, wherein the device-independent color space is CIELAB.